REMARKS

Claims 1-15 are pending after entry of this paper. Claims 1-14 have been rejected. Claims 4-6 have been cancelled without prejudice. Claims 1-3 and 7-14 have been amended. New claim 15 has been added.

Claim 1 has been amended to incorporate the subject matter of the now cancelled claims 4-6.

Claim 1 has been further amended to recite the phrase "while the other valuable metals remain in the aqueous solution." Support may be found throughout the instant specification, for example, at page 5, line 30-page 6, lines 2.

Claim 1 has been further amended to recite "transferring the first and second organic solutions to a stripping stage where copper is transferred from the organic solution into an aqueous solution of sulphuric acid." Support may be found throughout the instant specification, for example, at page 4, lines 27-31.

Additionally claim 1 has been amended to recite the phrase "partitioning the aqueous solution coming from the first extraction stage into a first part and a second part." Support may be found throughout the instant specification, for example, at page 4, lines 21-25.

Support for new claim 15 may be found throughout the instant specification, for example, at page 6, lines 25-28.

No new matter has been introduced by these amendments. Reconsideration and withdrawal of the pending rejections in view of the above claim amendments and below remarks are respectfully requested.

Response to Rejections under 35 U.S.C. §103

Claims 1-9, 11, and 13 have been rejected under 35 U.S.C. §103(a) for allegedly being obvious over U.S. Patent No. 4,230,487 to DeMarthe, et al. ("DeMarthe"), in view of U.S. Patent No. 4,272,492 to Jensen, et al. ("Jensen"), and further in view of U.S. Patent No. 7,065,857 B2 to Watanabe, et al. ("Watanabe").

As an initial matter, applicants herein formally make of record a translation of the foreign priority document (Finnish Patent Application No. FI 20021827, filed October 15, 2002). The translation (see Appendix) is a certified true translation of the foreign priority document. Applicants believe this to be sufficient to establish a priority date of October 15, 2002 for the instant application. Applicants respectfully assert that Watanabe is not available as prior art under any subsection of 35 U.S.C. §102. Regardless of the status of Watanabe as prior art, the applicants proffer that the choice of reference electrodes has no bearing on patentability of the instant claims.

The Examiner alleges that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to use the copper recovery process of Jensen with the process of DeMarthe et al, since Jensen teaches that liquid-liquid extraction of copper is well known (column 1, lines 45-65), [and] stripping and electrowinning is well known (column 2, lines 30-33)" (Office Action, page 5). Applicants respectfully disagree for the reasons set forth below.

The Examiner admits that "DeMarthe et al does not teach the further steps of feeding, separating, transferring, and feeding as in Claims 1 and 4-9" (Office Action, page 3). The Examiner applies Jensen for allegedly teaching "selectively extracting and recovering of copper from acidic solutions such as those obtained by leaching copper ore (column 3, lines 62

and 63)" (Office Action, page 3). Applicants respectfully disagree that the teachings of Jensen remedy the deficiencies of DeMarthe to arrive at the invention as instantly claimed, namely the steps of leaching, adjusting, feeding, extracting, partitioning, feeding, neutralizing, feeding, extracting, transferring and feeding as recited in claim 1. In view of the amendments incorporating the subject matter of cancelled claims 4-6 into claim 1, the applicants specifically address the Examiner's rejections with respect to previously pending claims 4-6.

Regardless of the teachings of DeMarthe, Jensen does not disclose the remaining steps of feeding, extracting, partitioning, feeding, neutralizing, feeding, extracting, transferring and feeding, as recited in claim 1. Specifically, Jensen does not teach *i*) partitioning the aqueous solution coming from the first extraction stage into a first part and a second part; *ii*) feeding the first part of the aqueous solution back to the leaching stage; *iii*) neutralizing the second part of the aqueous solution; *iv*) feeding the neutralized aqueous solution into the second extraction stage."

Regarding previously pending claim 5, the Examiner contends that "line **15** in Figure 2 returns to the first extraction" (emphasis added, Office Action, page 4). The portion of Jensen cited by the Examiner describes "a tertiary amine extractant countercurrently transported via closed loop conduit **15** which selectively extracts copper" (emphasis added, column 6, lines 49-52). Jensen also states "that the copper-bearing feed from which copper chloride is selectively extracted in copper extraction unit 3 may be recycled via conduit **16** and utilized as an acid leach solution to leach copper ores, concentrates, scrap, etc." (column 5, lines 60-65). Nonetheless, the instant invention recites *i*) partitioning the aqueous solution coming from the first extraction stage into a first part and a second part; *ii*) feeding the first part of the aqueous solution back to the leaching stage; *iii*) neutralizing the second part of the aqueous solution; *iv*)

feeding the neutralized aqueous solution into the second extraction stage (claim 1). This is in contrast to Jensen which discloses recycling all the copper-bearing feed once the copper has been extracted back to a leaching stage. As the Examiner admits (Office Action, page 3), this deficiency is not remedied by the combination of DeMarthe.

Regarding previously pending claim 6, the Examiner contends that "ammonia or sodium carbonate may be introduced into the extraction stage to maintain the pH to effectively utilize the copper loading capability of the extractant via **17** (column 8, lines 13-30)" (Office Action, page 4). In contrast, claim 1 requires "partitioning the aqueous solution coming from the first extraction stage into a first part and a second part; neutralizing the second part of the aqueous solution; [and] feeding the neutralized aqueous solution into the second extraction stage." Jensen does not teach partitioning the aqueous solution coming from the first extraction stage, neutralizing the second part, and feeding the neutralized aqueous solution into the second extraction stage as required by claim 1. The Examiner admits that deficiency is not remedied by combination with DeMarthe(Office Action, page 3). Therefore, the instantly claimed invention is distinct over the cited art.

Claims 10 and 14 have been rejected under U.S.C. §103(a) for allegedly being obvious over DeMarthe in view of Jensen and Watanabe as above, and further in view of U.S. Patent No. 3,476,553 to Ray, et al. ("Ray"). The Examiner admits that "DeMarthe et al in view of Jensen and Watanabe et al does not disclose using alkali precipitation as claimed" (Office Action , page 5). The Examiner contends that "Ray et al teaches recovering metals in solution by introducing hydroxyl ions (column 1, lines 16-18)" (Office Action, page 5). The applicants disagree. Nevertheless, Ray does not remedy the deficiencies of Jensen and DeMarthe as set

forth above, namely Ray does not teach partitioning the aqueous solution coming from the first extraction stage into a first part and a second part; feeding the first part of the aqueous solution back to the leaching stage; neutralizing the second part of the aqueous solution; feeding the neutralized aqueous solution into the second extraction stage. Therefore the subject matter of the dependent claims 10 and 14 are further distinguished over the art of record.

Claim 12 is rejected under U.S.C. §103(a) for allegedly being obvious over DeMarthe in view of Jensen and Watanabe as above, and in further view of U.S. Patent No. 4,082,629 to Milner, et al. ("Milner"). The Examiner admits that "DeMarthe et al in view of Jensen and Watanabe et al does not disclose the precipitation step as claimed" (Office Action, page 6). The Examiner contends that "Milner teaches treating complex sulfide concentrates" (Office Action, page 6). The applicants disagree. Nevertheless, Milner does not remedy the deficiencies of DeMarthe and Jensen as set forth above, namely Milner does not teach partitioning the aqueous solution coming from the first extraction stage into a first part and a second part; feeding the first part of the aqueous solution back to the leaching stage; neutralizing the second part of the aqueous solution; feeding the neutralized aqueous solution into the second extraction stage. Therefore, the subject matter of the dependent claim 12 is further distinguished over the art of record.

With respect to new claim 15, the combination of DeMarthe, Jensen, Watanabe, Ray and Milner does not teach the acidification of the aqueous solution coming from the precipitation step (claim 10) with sulphuric acid and the return of the aqueous solution to the leaching stage. New claim 15 provides a further point of distinction over the art of record.

In summary, the combination of DeMarthe and Jensen does not teach each and every element of instant claim 1. These deficiencies are not remedied by Watanabe, Ray and Milner, either alone or in combination. Thus, applicants respectfully submit that the invention as recited in the instant claims are patentably distinct over the art of record and request withdrawal of the rejections under 35 U.S.C. §103.

Dependent Claims

The applicants have not independently addressed all of the rejections of the dependent claims. The applicants submit that for at least similar reasons as to why independent claim 1 from which all of the dependent claims 2, 3, 7-15 depend are believed allowable as discussed *supra*, the dependent claims are also allowable. The applicants however, reserve the right to address any individual rejections of the dependent claims and present independent bases for allowance for the dependent claims should such be necessary or appropriate.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application. Favorable action by the Examiner is earnestly solicited.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4819-4738.

The applicants have petitioned for a one month extension of time. In the event which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4819-4738.

Respectfully submitted,
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